APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,842	07/31/2003	Hun-Kee Kim	45496	1957

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EXAMINER
BENGHUZZI, MOHSIN M

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 11/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/630,842	KIM ET AL.
	Examiner ⅏.ß·	**Art Unit**	
	Mohsin (Ben) Benghuzzi	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _31 July 2003_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-39_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-39_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _31 July 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *   c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2.   Claims 1-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Independent claims 1, 6, 10, 15, 22, 26, 30, and 34 contain the terms 'predetermined length', 'predetermined number of lengths', and 'preset length', which are terms that were not described in the specification. The term 'length' will, hereinafter, be interpreted by examiner as a set of number of pertinent values, with the type of values as individually described by applicant in each of the said claims. Independent claims 19, 21, 38, and 39 contain the terms '1/2 average value', '1/2 value', and '1/2 power value', which are terms that were not described in the specification. The term '1/2 value' will, hereinafter, be interpreted by examiner as the 'value' divided by two, with the type of value as individually described by applicant in each of the said claims.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1, 2, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Lee (US Pub 2001/0053128) and Kawaguchi et al. (US Pub 2002/0110109), and

further in view of Oishi et al. (US 6,028,894).

1) Regarding claim 1: (claim as interpreted by examiner)

Lee discloses an apparatus for detecting a power ratio (Paragraph 24 Lines

1-10, Paragraph 26 Lines 1-5, and Paragraph 48 Lines 1-3) between a first channel and

a second channel in a mobile communication system, comprising:

a channel estimator for generating a first signal by performing channel estimation

using the first channel signal (Paragraph 41 Lines 13-23, wherein, output of the pilot

filter is interpreted as the first signal);

a channel compensator for generating a second signal by channel-compensating

the second channel signal using the first signal (Paragraph 41 Lines 13-19, wherein,

output of the PCB extracting unit is interpreted as the second signal).

Lee discloses a power ratio detector generating the power ratio using a ratio of

the average value to the square of the absolute value of the first signal.

Lee does not disclose a power ratio detector for generating absolute values of

symbols constituting the second signal, selecting absolute values in a predetermined

length after sorting the absolute values in magnitude order, calculating an average

value of the selected absolute values, calculating a square of an absolute value of the

first signal.

Kawaguchi et al. discloses a power ratio detector for generating absolute values

of symbols constituting the second signal (Paragraph 91 Lines 3-6), selecting absolute

values in a predetermined length after sorting the absolute values in magnitude order

(Paragraph 97 Lines 6-9, wherein, finding 'the larger of the absolute values' is

interpreted as a step that must be preceded by sorting the absolute values), calculating

an average value of the selected absolute values (Paragraph 91 Lines 5-6).

It is desirable that the average of a set of absolute values of a signal is used in

calculating power. Average amplitude (magnitude) of a signal is a more accurate

representation of the signal amplitude over a period of time and since power of a signal

is derived from its amplitude, average power of a signal is a more accurate

representation of a signal power over a period of time. Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to have the

detector of Lee calculate an average value of the selected absolute values, as

Kawaguchi et al. teaches, in order to have a more accurate representation of measured

power, and thus, a more accurate representation of a power ratio detection.

Lee and Kawaguchi et al. do not disclose, calculating a square of an absolute

value of the first signal. However, Oishi et al. discloses, calculating a square of an

absolute value of the first signal (54 in Fig. 8 and Column 11 Lines 44-50). It is well

known in the art that calculating the square of the absolute value (magnitude) of a signal

is a step that leads to calculating power of the signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the apparatus of Lee and Kawaguchi et al. calculate the square of the absolute value of the first signal, as Oishi et al. teaches, in order for the apparatus to be able to calculate signal power, and thus, be able to detect power ratio.

2) Regarding claim 2: (claim as interpreted by examiner)

Lee discloses the apparatus of claim 1, wherein the power ratio detector comprises:

a power ratio generator for generating the power ratio by a ratio of the average value to the square of the absolute value of the first signal (Paragraph 24 Lines 1-10, Paragraph 26 Lines 1-5, and Paragraph 48 Lines 1-3)

As discussed in claim 1 above, Kawaguchi et al. discloses:

an absolute value generator for receiving symbols constituting the second signal and generating an absolute value of each of the symbols (Paragraph 91 Lines 3-6);

a sorter for sorting absolute values generated by the absolute value generator in magnitude order (Paragraph 97 Lines 6-9, wherein, finding 'the larger of the absolute values' is interpreted as a step that must be preceded by sorting the absolute values);

an average value calculator for selecting absolute values in a predetermined length among the sorted absolute values, and calculating an average value of the selected absolute values (Paragraph 91 Lines 5-6);

As discussed in claim 1 above, Oishi et al. discloses:

a squarer for calculating a square of an absolute value of the first signal (54 in

Fig. 8 and Column 11 Lines 44-50).

3) Regarding claim 6: (claim as interpreted by examiner)

Lee discloses an apparatus for detecting a power ratio between a first

channel and a second channel in a mobile communication system, comprising:

a power ratio generator for generating the power ratio by a ratio of the average

power to the square of the absolute value of the first signal (Paragraph 24 Lines 1-10,

Paragraph 26 Lines 1-5, and Paragraph 48 Lines 1-3).

As discussed in claim 1 above, Kawaguchi et al. discloses:

an absolute value generator for receiving symbols constituting a first signal

generated by channel-compensating the first channel signal (Paragraph 91 Lines 3-6);

a sorter for sorting absolute values generated by the absolute value generator in

magnitude order (Paragraph 97 Lines 6-9, wherein, finding 'the larger of the absolute

values' is interpreted as a step that must be preceded by sorting the absolute values);

an average calculator for selecting absolute values in a predetermined length

among the sorted absolute values, and calculating an average value of the selected

absolute values (Paragraph 91 Lines 5-6);

As discussed in claim 1 above, Oishi et al. discloses:

a squarer for calculating a square of an absolute value of a second signal

generated by performing channel estimation using the second channel signal (54 in Fig.

8 and Column 11 Lines 44-50).

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Vanghi (US Pub 2002/0155854) discloses a method and

apparatus for setting initial transmit power of a forward link traffic channel based on the

mobile station feeding back measurement information for pilot channel signals.

Namekata et al. (US 5,835,541) discloses an apparatus for providing sampling phase

synchronization for a Veterbi equalizer, which can improve the bit error rate

characteristics by estimating the channel impulse response.

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Mohsin (Ben) Benghuzzi whose telephone number is

(571) 270-1075. The examiner can normally be reached Monday through Friday,

8:30am- 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

7.   Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mohsin (Ben) Benghuzzi   November 16, 2006

MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER